

SEQUENCE LISTING

<110> Winter Sederoff, Heike
Huber, Steven C
Larabell, Carolyn A

<120> SYNTHETIC PEPTIDES THAT CAUSE F-ACTIN BUNDLING AND BLOCK ACTIN
DEPOLYMERIZATION

<130> JIB-1571

<140> 10/576,757
<141> 2004-10-20

<150> US 60/513,275
<151> 2003-10-20

<160> 24

<170> PatentIn version 3.5

<210> 1
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic consensus active Zea mays Sucrose Synthase (SuSy)
peptide

<400> 1

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Asn | Gly | Ile | Val | Arg | Lys | Trp | Ile | Ser | Arg | Phe | Glu | Val | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 2
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Zea mays SuSy1 protein 367-381

<400> 2

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Asn | Gly | Ile | Leu | Arg | Lys | Trp | Ile | Ser | Arg | Phe | Asp | Val | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 3
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Zea mays SuSy2 protein 357-389

<400> 3

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Asn | Gly | Ile | Val | Arg | Lys | Trp | Ile | Ser | Arg | Phe | Glu | Val | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 4
<211> 15
<212> PRT
<213> Artificial

<220>
 <223> synthetic peptide derived from Zea mays SuSy3 protein
 <400> 4
 Glu Asn Gly Ile Leu Lys Lys Trp Ile Ser Arg Phe Asp Val Trp
 1 5 10 15
 <210> 5
 <211> 15
 <212> PRT
 <213> Artificial
 <220>
 <223> synthetic peptide derived from Drosophila melanogaster Actin 2
 protein and Homo sapiens beta and gamma Actin proteins
 <400> 5
 Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
 1 5 10 15
 <210> 6
 <211> 15
 <212> PRT
 <213> Artificial
 <220>
 <223> synthetic peptide derived from Drosophila melanogaster Actin 3,
 5, and 6 proteins and Homo sapiens alpha Actin protein
 <400> 6
 Glu His Gly Ile Ile Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
 1 5 10 15
 <210> 7
 <211> 15
 <212> PRT
 <213> Artificial
 <220>
 <223> synthetic peptide derived from Drosophila melanogaster ARP1
 <400> 7
 Glu His Gly Ile Val Lys Asp Trp Asn Asp Met Glu Arg Ile Trp
 1 5 10 15
 <210> 8
 <211> 15
 <212> PRT
 <213> Artificial
 <220>
 <223> synthetic peptide derived from Drosophila melanogaster ARP2
 <400> 8
 Glu Asn Gly Val Val Arg Asn Trp Asp Asp Met Cys His Val Trp
 1 5 10 15
 <210> 9
 <211> 17

<212> PRT
<213> Artificial

<220>
<223> synthetic SS1 inactive control peptide

<220>
<221> peptide
<222> (1)..(17)

<400> 9

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Asp | Arg | Val | Leu | Ser | Arg | Leu | His | Ser | Val | Arg | Glu | Arg | Ile | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Lys

<210> 10
<211> 18
<212> PRT
<213> Artificial

<220>
<223> synthetic SS2 active peptide based on Zea mays SuSy 377-392

<400> 10

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ile | Val | Arg | Lys | Trp | Ile | Ser | Arg | Phe | Glu | Val | Trp | Pro | Tyr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Lys Lys

<210> 11
<211> 15
<212> PRT
<213> Artificial

<220>
<223> SS11 inactive synthetic peptide

<400> 11

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Leu | Arg | Val | Pro | Phe | Arg | Thr | Glu | Asn | Gly | Ile | Val | Arg | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 12
<211> 16
<212> PRT
<213> Artificial

<220>
<223> SS12 active synthetic peptide

<400> 12

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ile | Val | Arg | Lys | Trp | Ile | Ser | Arg | Phe | Glu | Val | Trp | Pro | Tyr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 13
<211> 16

<212> PRT
<213> Artificial

<220>
<223> SS15 less active synthetic peptide

<220>
<221> SITE
<222> (6)..(6)
<223> replaced Tryptophan residue with Alanine

<220>
<221> SITE
<222> (13)..(13)
<223> replaced Tryptophan residue with Alanine

<400> 13

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ile | Val | Arg | Lys | Ala | Ile | Ser | Arg | Phe | Glu | Val | Ala | Pro | Tyr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 14
<211> 9
<212> PRT
<213> Artificial

<220>
<223> SS16 less active synthetic peptide corresponding to short middle portion of SS12 synthetic peptide

<400> 14

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Arg | Phe | Glu | Val | Trp | Pro | Tyr | Leu |
| 1 | | | | 5 | | | | |

<210> 15
<211> 19
<212> PRT
<213> Artificial

<220>
<223> NR11 inactive synthetic peptide

<400> 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Thr | Leu | Lys | Arg | Thr | Ala | Ser | Thr | Ala | Phe | Met | Asn | Thr | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

Ser Lys Lys

<210> 16
<211> 14
<212> PRT
<213> Artificial

<220>
<223> SP26 inactive synthetic peptide

<400> 16

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Arg | Met | Arg | Arg | Ile | Ala | Thr | Val | Glu | Met | Met | Lys | Lys |
| 1 | | | | 5 | | | | | 10 | | | | |

<210> 17
 <211> 8
 <212> PRT
 <213> Artificial

 <220>
 <223> synthetic small block of SS12 sequence required for less active synthetic peptide

 <400> 17
 Trp Ile Ser Arg Phe Glu Val Trp
 1 5

 <210> 18
 <211> 10
 <212> PRT
 <213> Artificial

 <220>
 <223> SP3 inactive synthetic peptide

 <400> 18
 Arg Arg Ile Ser Ser Val Glu Asp Lys Lys
 1 5 10

 <210> 19
 <211> 20
 <212> PRT
 <213> Artificial

 <220>
 <223> synthetic peptide of Drosophila melanogaster Actin protein consensus sequence

 <400> 19
 Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp His
 1 5 10 15

 His Thr Phe Tyr
 20

 <210> 20
 <211> 15
 <212> PRT
 <213> Artificial

 <220>
 <223> synthetic peptide derived from Homo sapiens ARP1 protein

 <400> 20
 Glu His Gly Val Val Arg Asp Trp Asn Asp Met Glu Arg Ile Trp
 1 5 10 15

 <210> 21
 <211> 15
 <212> PRT
 <213> Artificial

<220>
<223> synthetic peptide derived from Homo sapiens ARP2 protein
<400> 21

Glu Asn Gly Ile Val Arg Asn Trp Asp Asp Met Lys His Leu Trp
1 5 10 15

<210> 22
<211> 6
<212> PRT
<213> Artificial

<220>
<223> synthetic core minimum block of SS12 sequence required for less active
synthetic peptide

<400> 22

Ser Arg Phe Glu Val Trp
1 5

<210> 23
<211> 13
<212> PRT
<213> Artificial

<220>
<223> SS synthetic peptide B

<400> 23

Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu Lys Lys
1 5 10

<210> 24
<211> 20
<212> PRT
<213> Artificial

<220>
<223> SS synthetic peptide C

<400> 24

Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro
1 5 10 15

Tyr Leu Lys Lys
20